

Abstracts

Examining the Community Food Environments for Elementary School-Aged Children in the City of London and Middlesex County, Ontario

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Background: Childhood obesity is a growing public health issue. In Canada, one in four children and youth are overweight or obese, resulting in several health issues, such as type 2 diabetes or cardiovascular disease. Though research suggests diet plays a crucial role in childhood obesity, prevalence rates of overweight or obesity among children in a neighborhood may also relate to area socioeconomic characteristics and factors of the built environment (e.g., presence of parks, buildings, transportation systems, etc.) as well. The community nutrition environment (e.g., the type, location, and accessibility of food outlets) can influence dietary habits.

Methods: Using a geographic information system (ArcGIS, version 10.4), public and private elementary school addresses were geocoded, food outlets were mapped, and both junk food outlet density and the modified retail food environment index were calculated within every school zone (800m network service area around the school).

Results: In Middlesex County, 53.6% of elementary schools have 0 junk food outlets within the school zone while the remaining schools have at least 1 junk food outlet within. In London, about 25% of the school zones have 0 junk food outlets per square kilometer, 44% have up to 10, and 31% have 20 or more, with one school having 30 junk food outlets per square kilometer. The Modified Retail Food Environment Index (mRFEI) results show none of the schools have a positive index score – indicating all schools have more junk food outlets than healthy food outlets within 800m.

Discussion and Conclusions: With up to 67.5 junk food outlets per square kilometer, London's elementary school zones illustrate food swamps (areas where disadvantaged residents have high access to unhealthy foods) while Middlesex school zones represent food deserts (areas where disadvantaged residents have poor access to healthy foods) as most of the mRFEI scores were zero indicating no healthy food outlets within the school zones.

Interdisciplinary Reflection: This research is geographic in nature but has great impact for children's health research and food/nutrition studies.